| Electronic Patent A                     | \pp                                                                    | lication Fee | Transmi  | ttal   |                         |  |  |
|-----------------------------------------|------------------------------------------------------------------------|--------------|----------|--------|-------------------------|--|--|
| Application Number:                     | 10749910                                                               |              |          |        |                         |  |  |
| Filing Date:                            | 30-Dec-2003                                                            |              |          |        |                         |  |  |
| Title of Invention:                     | MEMORY CONTROLLER HAVING A BUFFER FOR PROVIDING BEGINNING AND END DATA |              |          |        |                         |  |  |
| First Named Inventor/Applicant Name:    | Kulwinder Dhanoa                                                       |              |          |        |                         |  |  |
| Filer:                                  | Jeffrey Howard Ingerman                                                |              |          |        |                         |  |  |
| Attorney Docket Number:                 | 000174-0615-101/A00985                                                 |              |          |        |                         |  |  |
| Filed as Large Entity                   |                                                                        |              |          |        |                         |  |  |
| Utility under 35 USC 111(a) Filing Fees |                                                                        |              |          |        |                         |  |  |
| Description                             |                                                                        | Fee Code     | Quantity | Amount | Sub-Total in<br>USD(\$) |  |  |
| Basic Filing:                           |                                                                        |              |          |        |                         |  |  |
| Pages:                                  |                                                                        |              |          |        |                         |  |  |
| Claims:                                 |                                                                        |              |          |        |                         |  |  |
| Miscellaneous-Filing:                   |                                                                        |              |          |        |                         |  |  |
| Petition:                               |                                                                        |              |          |        |                         |  |  |
| Patent-Appeals-and-Interference:        |                                                                        |              |          |        |                         |  |  |
| Post-Allowance-and-Post-Issuance:       |                                                                        |              |          |        |                         |  |  |
| Utility Appl issue fee                  |                                                                        | 1501         | 1        | 1510   | 1510                    |  |  |
| Extension-of-Time:                      |                                                                        |              |          |        |                         |  |  |

| Description                       | Fee Code | Quantity | Amount | Sub-Total in<br>USD(\$) |
|-----------------------------------|----------|----------|--------|-------------------------|
| Miscellaneous:                    |          |          |        |                         |
| Printed copy of patent - no color | 8001     | 3        | 3      | 9                       |
|                                   | Tot      | 1519     |        |                         |